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**PATENT
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Tsuyonobu Hatazawa et al.) New Attorney Docket No:
Serial No: 09/446,641) 09793822-0111
Filed: December 22, 1999)
Title: SOLID-ELECTROLYTE) Group Art Unit No: 1745
SECONDARY BATTERY) Examiner: T. Dove

Attn: Valarie Reid
Assistant Commissioner of Patents
TC1700
Washington, D.C. 20231

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JUN 19 2002
TC 1700

RESPONSE TO NOTICE UNDER 37 CFR 1.251

Dear Ms. Reid:

In response to the Notice Under 37 CFR 1.251 mailed May 24, 2002, enclosed is a complete and accurate copy of applicant's record of such papers as per your request.

Respectfully submitted,

David R. Metzger, Reg. 32,919

SONNENSCHN NATH & ROSENTHAL
P.O. Box #061080
Wacker Drive Station, Sears Tower
Chicago, IL 60606-1080
(312)876-8000

I hereby certify that this document and any being referred to as attached or enclosed is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 on

June 4, 2002 Anna M. Franz
Date Anna M. Franz

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

In re Application of: Hatazawa et al.

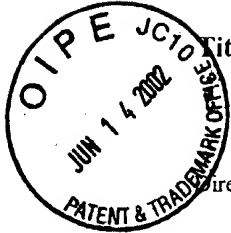
Application No.: 09/446,641

Filing Date: December 22, 1999

Title: Solid-Electrolyte Secondary Battery

Direct to: TC 1700

United States Patent and Trademark Office
Washington, DC 20231



NOTICE UNDER 37 CFR 1.251 - Pending Application

Statement (check the appropriate box):

☐ The copy submitted with this reply is a complete and accurate copy of applicant's record of all of the correspondence between the Office and the applicant for the above-identified application (except for U.S. patent documents), and applicant is not aware of any correspondence between the Office and applicant for the above-identified application that is not among applicant's records.

☒ The copy of the paper(s) listed in the notice under 37 CFR 1.251 is/are a complete and accurate copy of applicant's record of such paper(s).

☐ The papers produced by applicant are applicant's complete record of all of the correspondence between the Office and the applicant for the above-identified application (except for U.S. patent documents), and applicant is not aware of any correspondence between the Office and the applicant for the above-identified application that is not among applicant's records.

☐ Applicant does not possess any record of the correspondence between the Office and the applicant for the above-identified application.

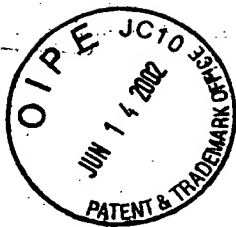
June 4, 2002
Date

Signature

Typed or printed name David R. Metzger

A copy of this notice should be returned with the reply.

Burden Hour Statement: This collection of information is required by 37 CFR 1.251. The information is used by the public to reply to a request for copies of correspondence between the applicant and the USPTO in order to reconstruct an application file. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This form is estimated to take 60 minutes to complete. This time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



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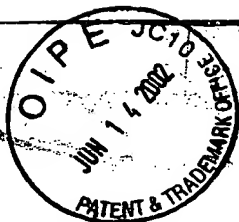
**Patent Office Mail Room: Will you
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receipt of the following documents:**

**Applicant: T. Hatazawa, et al.
Serial No.: 09/446,641
Filing Date: December 22, 1999
Client: Koike
(P99,2641)**

Title: SOLID-ELECTROLYTE SECONDARY BATTERY

- 1. Transmittal Letter (1 page – in duplicate)**
- 2. Response to Office Action with Appendix (16 pages)**
- 3. Return Receipt Postcard**

**All mailed to the U.S. Patent and Trademark Office by First Class Mail on
May 25, 2001**



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LD

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/446,641 12/22/99 HATAZAWA

T P99.2641

EXAMINER

026263 IM51/0228
SONNENSCHN NATH & ROSENTHAL
P.O. BOX 061080
WACKER DRIVE STATION
CHICAGO IL 60606-1080

DOVE, T
ART UNIT

PAPER NUMBER

1745
DATE MAILED:

02/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

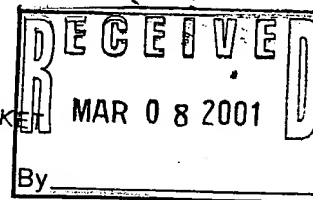
Commissioner of Patents and Trademarks

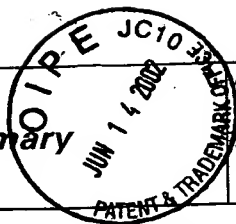
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Office Action SummaryApplication No.
09/446,641

Applicant(s)

Hatazawa et al.

Examiner

Tracy Dove

Group Art Unit

1745☒ Responsive to communication(s) filed on 22 Dec 1999☐ This action is **FINAL**.☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims☒ Claim(s) 10-19 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.☒ Claim(s) 10-19 is/are rejected.☐ Claim(s) _____ is/are objected to.☐ Claims _____ are subject to restriction or election requirement.**Application Papers**☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.☐ The drawing(s) filed on _____ is/are objected to by the Examiner.☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.☐ The specification is objected to by the Examiner.☐ The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. § 119**☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been☐ received.☐ received in Application No. (Series Code/Serial Number) _____☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).**Attachment(s)**☒ Notice of References Cited, PTO-892☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3 & 4☐ Interview Summary, PTO-413☐ Notice of Draftsperson's Patent Drawing Review, PTO-948☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Art Unit: 1745

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 4/3/00 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

Claim 12 is objected to because of the following informalities: a typographical error appears in line 1, "Claim 110" should be "Claim 10". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1745

The term "similar" in claim 14 is a relative term which renders the claim indefinite. The term "similar" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "similar" is indefinite because it is unclear what "similar in molecular structure" encompasses.

Regarding claims 15 and 16, the phrase a "material into or from which" is not grammatically correct. Examiner suggests a "material which is capable of intercalating or deintercalating a lithium ion".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claims 10-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Humphrey, Jr. et al., US 5,922,493.

Humphrey teaches an electrochemical cell having a positive electrode, an absorber-separator sometimes referred to as a solid electrolyte, and a negative electrode. At least one of the electrodes or the absorber-separator comprises a porous polyvinylidene fluoride (PVDF) [clm

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14], the PVDF electrodes having an electrode material combined therewith and the PVDF absorber-separator having an electrolyte material combined therewith. See col. 4, lin 44-52. The PVDF polymer may include either a homopolymer or copolymer, wherein the copolymers are either heterogeneous or homogeneous copolymers of vinylidene fluoride and hexafluoropropylene [clm 13]. The co-monomer is present from about 7 to about 25% by weight [clm 12]. The use of homogeneous copolymers for the manufacture of the electrode and electrolyte matrices is especially preferred. See col. 5, lin 9-22. Polymers that may be used are shown in Table III. The table shows various grades of KYNAR™ (trade name for PVDF and is commercially available) ranging in weight average molecular weights of 35,500 to 572,500. KYNAR™ 460 (572,000) and KYNAR™ 460 Black (373,500) are included in Table III [clm 11]. See col. 10, lin 33-34. Table IV also describes the combination of medium and high molecular weight grades to provide a PVDF homopolymer. See col. 10, lin 64-66. The positive electrode includes LiMn_2O_4 [clm 17] and the negative electrode includes petroleum coke (carbonaceous material) [clm 15,16]. See col. 14, lin 57-67.

Thus the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

Art Unit: 1745

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Humphrey Jr. et al., US 5,922,493.

See discussion of Humphrey above.

Humphrey teaches the PVDF polymers are cast in thin porous membranes. The electrode materials or the electrolyte materials can be incorporated into a PVDF solution prior to casting it into a film or sheet, after which the solution is converted to a porous polyvinylidene fluoride membrane combined with the electrode or electrolyte materials.

Humphrey does not explicitly state the solid-electrolyte layer is formed on the face of an electrode.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because irrespective of how the solid electrolyte layer is formed, the products are the same. Thus, whether the solid electrolyte layers are formed directly on the electrode or formed as a separate layer, or any other method of forming the solid electrolyte layer is used, the layers, as an end result, are the same. Furthermore, the courts have held that when similar products are produced, the product-by-process limitations are obvious. In re Brown 173 USPQ 685, In re Fessman 180 USPQ 324.

Art Unit: 1745

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

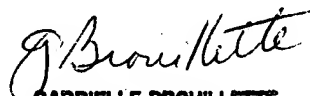
Takatera et al. 6,159,638 teaches a solid polymer electrolyte including PVDF having a weight average molecular weight of 10,000 to 1,000,000. See col. 4, lin 58-62.

Cabasso et al. 6,103,414 teaches a solid electrolyte membrane including PVDF having a number average molecular weight between about 10,000 and 10,000,000. See col. 5, lin 34-45.

Gozdz et al. 5,429,891 & 5,296,318 teach polymeric electrolytes including PVDF having a molecular weight ranges of about 100,000 to about 500,000 ('891) and about 155,000 to about 535,000 ('318).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached *Monday-Thursday from 8:00 AM - 6:30 PM*. My supervisor is Gabrielle Brouillette, who can be reached at (703) 308-0756. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax number is (703) 305-3599.

February 23, 2001


GABRIELLE BROUILLETTE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Notice of References Cited	Application No. 09/446,641	Applicant(s) Hatazawa et al.	
	Examiner Tracy Dove	Group Art Unit 1745	Page 1 of 1

U.S. PATENT DOCUMENTS

	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A	5,429,891	7/4/95	Gozdz et al.	429	----
B	5,922,493	7/13/99	Humphrey Jr. et al.	429	316
C	6,103,414	8/15/00	Cabasso et al.	429	33
D	6,159,638	12/12/00	Takatera et al.	429	309
E					
F					
G					
H					
I					
J					
K					
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FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS

	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
U		
V		
W		
X		

(37 CFR 1.98 (b))

EXAMINER INITIAL	PATENT NUMBER								ISSUE DATE	PATENTEE	CLASS	SUB CLASS	FILING DATE
JD	5	5	6	5	2	8	4	10/15/96	Koga, et al.				
JD	5	5	7	1	6	3	4	11/05/96	Gozdz, et al.				
JD	5	2	9	6	3	1	8	03/22/94	Gozdz, et al.				

[illegible][illegible]

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

(Form PTO-1449)

37 CFR 1.501
 INFORMATION DISCLOSURE STATEMENT
 IN A PATENT
 (use several sheets if necessary)



Docket
 P99,264
 Applicant
 Hatazawa et al.
 Filing Date
 December 22, 1999
 Class
 1745

U.S. PATENT DOCUMENTS

Examiner's Initials	Document Number	Date	Name	Class	Subclass	Filing Date If appropriate
	AA					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					

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FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
AL	6-243896	2.9.94	Japan				
AM	8-250127	27.9.96	Japan				
AN	9-115550	2.5.97	Japan				
AO	9-306544	28.11.97	Japan				
AP	11-111265	23.4.99	Japan				
AQ	11-3729	6.1.99	Japan				
AR	11-67274	9.3.99	Japan				
AS							

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AT	
AU	
AV	
AW	

Examiner *J. Dore* Date Considered *2/01*

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: T. Hatazawa, et al.

Serial No.: 09/446,641

Filed: December 22, 1999

For: SOLID-ELECTROLYTE SECONDARY
BATTERY

Case No.: 9793822-0111 (P99,2641)

Group Art Unit: 1745

Examiner: T. Dove

Date: May 25, 2001

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Date of Deposit: May 25, 2001

Joellen Hogan
Joellen Hogan

5/25/01
Date

TRANSMITTAL LETTER

Box Non-Fee Amendment
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Enclosed herewith is a Response to Office Action of T. Hatazawa, et al. in the above-identified patent application entitled SOLID-ELECTROLYTE SECONDARY BATTERY.

Also enclosed are: Return Receipt Postcard

The Commissioner is hereby authorized to charge any additional fees required, as well as any patent application processing fees associated with this communication for which full payment has not been tendered, to Deposit Account No. 19-3140. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

SONNENSCHN NATH & ROSENTHAL

SONNENSCHN NATH & ROSENTHAL
P.O. Box 061080
Wacker Drive Station - Sears Tower
Chicago, Illinois 60606-1080
Telephone: (312) 876-8000

By:

David R. Metzger
David R. Metzger
Registration No. 32,919

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

Applicant: T. Hatazawa, et al.

Serial No.: 09/446,641

Filed: December 22, 1999

**SOLID-ELECTROLYTE SECONDARY
BATTERY**

Case No.: 9793822-0111

Group Art Unit: 1745

Examiner: T. Dove

Date: January 14, 2002

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Date of Deposit: January 14, 2002

J. Ellen Hogan
Jo Ellen Hogan

1/14/02
Date

TRANSMITTAL LETTER

Box AF
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Enclosed herewith is a Response to Final Office Action of T. Hatazawa, et al. in the above-identified patent application entitled **SOLID-ELECTROLYTE SECONDARY BATTERY**.

Also enclosed are:

- Notice of Appeal
- Check in the amount of \$320.00
- Petition for Extension of Time
- Check in the amount of \$920.00
- Seven (7) English abstracts of non-English references
- Declaration under 37 CFR 1.132
- Return Receipt Postcard

The Commissioner is hereby authorized to charge any additional fees required, as well as any patent application processing fees associated with this communication for which full payment has not been tendered, to Deposit Account No. 19-3140. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

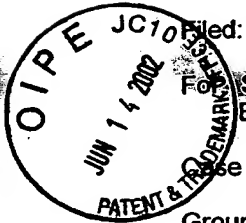
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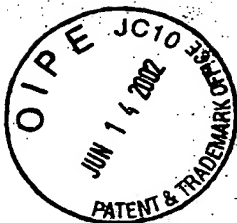
SONNENSCHN NATH & ROSENTHAL
P.O. Box 061080
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Chicago, Illinois 60606-1080
Telephone: (312) 876-8000

By:

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Shashank Upadhye
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09/446,641
December 22, 1999
A. Koike

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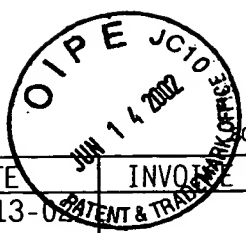
Title: SOLID-ELECTROLYTE SECONDARY BATTERY

1. Request for Continued Examination (RCE) Transmittal
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3. Supplemental Response (2 pages)
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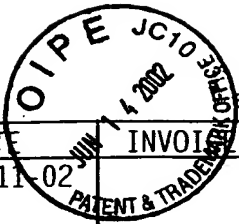
**Applicant: T. Hatazawa, et al.
Serial No.: 09/446,641
Filing Date: December 22, 1999
Client: A. Koike & Co.**

Title: SOLID-ELECTROLYTE SECONDARY BATTERY

- 1. Transmittal Letter (1 page - in duplicate)**
- 2. Response to Final Office Action (5 pages)**
- 3. Seven (7) English abstracts of non-English references**
- 4. Declaration under 37 CFR 1.132**
- 5. Notice of Appeal (1 page - in duplicate)**
- 6. Check in the amount of \$320.00**
- 7. Petition for Extension of Time (1 page - in duplicate)**
- 8. Check in the amount of \$920.00**
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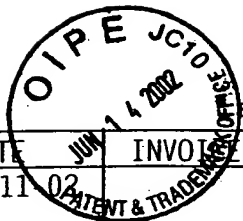
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TOTAL AMOUNT PAID						920.00

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JUN 19 2002
TC 1700

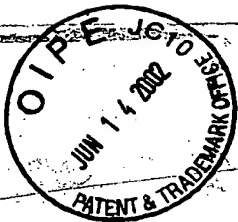
THE FACE OF THIS DOCUMENT HAS A COLORED BACKGROUND ON WHITE PAPER.

Sonnenschein 8000 SEARS TOWER CHICAGO, ILLINOIS 60606		CHECK NO. 1152691
CHECK DATE 01/11/02	CITIBANK DEPT. 4740 A Subsidiary of Citicorp ONE PENNS WAY NEW CASTLE, DE 19720	CHECK AMOUNT \$*****920.00
NINE HUNDRED TWENTY AND 00/100 Dollars		
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⑈ 1152691 ⑈ ⑆ 031100209 ⑆

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UNITED STATES DEPARTMENT OF COMMERCE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/446,641	12/22/99	HATAZAWA	T P99.2641

026263 IM31/0731
SONNENSCHN NATH & ROSENTHAL
P.O. BOX 061080
WACKER DRIVE STATION
CHICAGO IL 60606-1080

FINALEXAMINER
DOVE, TART UNIT PAPER NUMBER
1745

DATE MAILED: 07/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

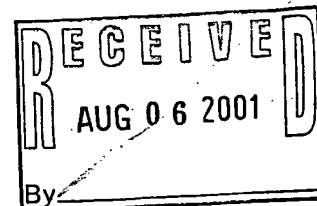
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TC 1700RECEIVED 8/6/01 DOCKETDOCKETED ResponseDIARIED 10/31/01

BY: JCD



Office Action Summary

Application No.
09/446,641

Applicant(s)

Hatazawa et al.

Examiner

Tracy Dove

Art Unit

1745



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2001
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-19 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:



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DETAILED ACTION

This Office Action is in response to the communication filed on 5/29/01. Applicant's arguments have been considered, but are not persuasive. Claims 10-19 are rejected in view of the prior art of record. This Action is made **FINAL**, as necessitated by amendment.

Information Disclosure Statement

The information disclosure statement filed 4/3/00 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56© most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Applicant stated that English abstracts of the non-English references were to have been submitted with the amendment filed 5/29/01, however, no abstracts were found by the Examiner. Applicant must submit the English abstracts of the non-English references along with a copy of the Information Disclosure Statement listing the references (1449 form).

Claim Objections

The objection to claim 12 has been withdrawn.

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Claim Rejections - 35 U.S.C. § 112

The 35 U.S.C. 112, second paragraph, rejections of claims 14-16 have been withdrawn.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10-19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 10 and 12 recite a fluorocarbon polymer having a weight-average molecular weight of "greater than 572,500". A molecular weight of "greater than 572,500" is not supported by the specification as originally filed.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humphrey Jr. et al., US 5,922,493.

Humphrey teaches an electrochemical cell having a positive electrode, an absorber-separator sometimes referred to as a solid electrolyte, and a negative electrode. At least one of the electrodes or the absorber-separator comprises a porous polyvinylidene fluoride (PVDF) [clm 14], the PVDF electrodes having an electrode material combined therewith and the PVDF absorber-separator having an electrolyte material combined therewith. See col. 4, lin 44-52. The PVDF polymer may include either a homopolymer or copolymer, wherein the copolymers are either heterogeneous or homogeneous copolymers of vinylidene fluoride and hexafluoropropylene [clm 13]. The co-monomer is present from about 7 to about 25% by weight [clm 12]. The use of homogeneous copolymers for the manufacture of the electrode and electrolyte matrices is especially preferred. See col. 5, lin 9-22. Polymers that may be used are shown in Table III. The table shows various grades of KYNARTM (trade name for PVDF and is commercially available) ranging in weight average molecular weights of 35,500 to 572,500. KYNARTM 460 (572,000) and KYNARTM 460 Black (373,500) are included in Table III [clm 11]. See col. 10, lin 33-34. Table IV also describes the combination of medium and high molecular weight grades to provide a PVDF homopolymer. See col. 10, lin 64-66. The positive electrode includes LiMn_2O_4 [clm 17] and the negative electrode includes petroleum coke (carbonaceous material) [clm 15,16]. See col. 14, lin 57-67.

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Humphrey does not explicitly teach the weight average molecular weight of the matrix polymer is greater than 572,500.

However, Humphrey teaches the weight average molecular weight of the matrix polymer ranges from 35,500 to 572,500.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the range "greater than 572,500" for the fluorocarbon polymer is considered obvious in view of a prior art teaching of "35,500 to 572,500" for a fluorocarbon polymer. Furthermore, Humphrey has a specific teaching to use a fluorocarbon polymer having a weight average molecular weight of 572,000 (KYNAR™ 460) in Table III.

Regarding claims 18 and 19, Humphrey teaches the PVDF polymers are cast in thin porous membranes. The electrode materials or the electrolyte materials can be incorporated into a PVDF solution prior to casting it into a film or sheet, after which the solution is converted to a porous polyvinylidene fluoride membrane combined with the electrode or electrolyte materials.

Humphrey does not explicitly state the solid-electrolyte layer is formed on the face of an electrode.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because irrespective of how the solid electrolyte layer is formed, the products are the same. Thus, whether the solid electrolyte layers are formed directly on the electrode or formed as a separate layer, or any other method of forming the solid

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electrolyte layer is used, the layers, as an end result, are the same. Furthermore, the courts have held that when similar products are produced, the product-by-process limitations are obvious. In re Brown 173 USPQ 685, In re Fessman 180 USPQ 324.

Response to Arguments

Applicant's arguments filed 5/29/01 have been fully considered but they are not persuasive.

Applicant argues that Humphrey does not teach or suggest a solid electrolyte having a matrix polymer having a fluorocarbon polymer with a weight average molecular weight greater than 572,500.

Examiner disagrees that Humphrey does not suggest a solid electrolyte having a matrix polymer having a fluorocarbon polymer with a weight average molecular weight greater than 572,500. Humphrey has a specific teaching to use a fluorocarbon polymer having a weight average molecular weight of 572,000 (KYNAR™ 460) in Table III. A fluorocarbon polymer having a weight average molecular weight of 572,000 clearly suggests a fluorocarbon polymer having a weight average molecular weight of 572,500.

Applicant argues that claims may be amended to exclude subject matter disclosed in the prior art. However, the claim amendments must be supported by the original specification. The original specification does not support a fluorocarbon polymer having a weight average molecular weight of 572,500.

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Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

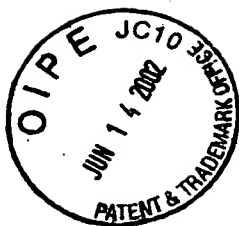
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached *Monday-Thursday from 8:00 AM - 6:30 PM*. My supervisor is Gabrielle Brouillette, who can be reached at (703) 308-0756. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax number is (703) 305-3599.

July 28, 2001


CAROL CHANEY
PRIMARY EXAMINER



SONNENSCHN NATH & ROSENTHAL

File Memorandum

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Client Koike

With Examiner Tracy Dove

Matter No. 9793822-0111

Phone No. _____

Copy to _____

By S. Upadhye

Date 12 March 2002

Re: Appeal & CPA

~~File CPA~~

Appeal brief due 2 14 March. Calls placed to Examiner to see if AAF was entered and allowable. If so, no need for appeal. If not entered, appeal brief to address of claims.

Examiner called today indicating that file at PTO was flagged as lost. Exam. cannot act on

AAF. Either option is to file appeal brief or file CPA to continue prosecution.

File CPA instead.

Sonnenschein
SONNENSCHN NATH & ROSENTHAL

Facsimile Transmittal Sheet

DATE- March 7, 2002

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233 South Wacker Drive
Chicago, IL 60606
312 876 8000
312 876 7934 fax
www.sonnenschein.com

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Kansas City
Los Angeles
New York
San Francisco
St. Louis
Washington, D.C.
West Palm Beach

PLEASE DELIVER THE FOLLOWING PAGES TO.

NAME- Examiner Tracy Dove

FIRM- USPTO

PHONE-

FAX- 703-872-9517

CLIENT/MATTER- 9793822-0111
Serial No 09/446,641

FROM- Shashank Upadhye

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MESSAGE- Enclosed is a copy of the packet mailed as an Amendment After Final. I appreciate your prompt attention as an Appeal Brief is due by March 14, 2002.

Original will NOT be mailed

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Document Pages : 40
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PLEASE DELIVER THE FOLLOWING PAGES TO:

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FIRM• USPTO

PHONE•

FAX• 703-872-9517

CLIENT/MATTER• 9793822-0111
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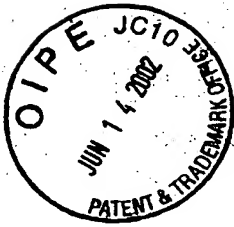
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With Exam. Tracy Dove

Phone No. 703-308-8821

By Sheshank Upadhye

Client Rolke 9793822-011

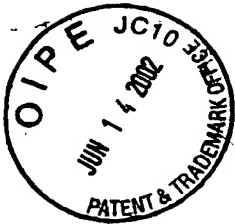
Serial No: 09/446,641
Matter No.

Copy to _____

Date 07 Mar 02

Re: _____

Called Exam. re: status of Amend. After Final
AAF & Not. of Appeal sent 14 Jun 02. Appeal
brief is due 14 Mar. unless Exam allows
case. Called Exam. today to see if
AAF was rec'd for Adv. Action
was sent. Exam said only Not. of Appeal
was docketed and no record of AAF.
She is pulling file to see if AAF there. I
faxed copies to Exam again (703-872-9517)
for her expedited review. She will
call back with whether Adv. Action can
be sent in time.



DOCKET NO. 9793822-0111

28S/JVH

02/09/01

Patent Office Mail Room: Will you
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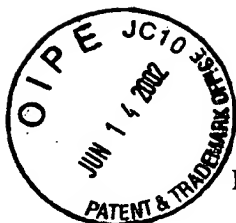
T. Hatazawa, et al.
09/446,641
December 22, 1999
A. Koike & Co.
(P99,2641)

Title: SOLID-ELECTROLYTE SECONDARY BATTERY

1. Transmittal Letter (1 page - in duplicate)
2. Information Disclosure Statement (1 page)
3. PTO Form 1449 (1 page in duplicate)
4. Copy of Australian Search Report
5. One copy of four (4) references
6. Return Receipt Postcard

All mailed to the U.S. Patent and Trademark Office by First Class Mail on
February 9, 2001

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PATENT
IN THE UNITED STATES PATENT & TRADEMARK OFFICE

APPLICANT: T. Hatazawa et al.

SERIAL NO.: 09/446,641

FILED: December 22, 1999

FOR: SOLID-ELECTROLYTE
SECONDARY BATTERY

EXAMINER: not yet assigned

CASE NO.: 9793822-0111 (P99,2641)

DATE: February 9, 2001

(GROUP ART UNIT: 1745

(I hereby certify that this paper (along with any paper
(referred to as being attached or enclosed) is being
(deposited with the United States Postal Service as
(First Class Mail in an envelope addressed to:

(Assistant Commissioner For Patents
(Washington, D.C. 20231

(Date of Deposit: February 9, 2001

(Jo Ellen Hogan 2/9/01
(Jo Ellen Hogan Date

TRANSMITTAL LETTER

Assistant Commissioner for Patents
Washington D.C. 20231

Dear Sir:

Enclosed herewith is the Information Disclosure Statement of T. Hatazawa, et al., for
SOLID-ELECTROLYTE SECONDARY BATTERY, Serial No. 09/446,641, filed
December 22, 1999.

Also enclosed are: Information Disclosure Statement
PTO Form 1449
Australian Patent Office Search Report
One (1) copy of four (4) references
Return-receipt postcard

The Commissioner is hereby authorized to charge any additional filing fees required
under 37 CFR 1.17 concerning the transaction, or to credit any overpayment to Deposit
Account 19-3140. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

SONNENSCHN NATH & ROSENTHAL

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By: Janelle D. Strode

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